

The Mosquitoes of Polynesia with a Pictorial Key
to some Species Associated with Filariasis and/or
Dengue Fever^{1,2}

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ABSTRACT. A list of the mosquitoes of Polynesia is tabulated and their distribution outlined. Keys for the identification of adults and larvae of Polynesian species are provided.

A pictorial key for the recognition of species associated with filariasis and dengue fever is furnished for the use of field workers.

INTRODUCTION

In order to assist field workers in recognizing the vector mosquitoes of filariasis and dengue in Polynesia, pictorial keys to the adult and larval stages have been prepared at the request of the World Health Organization. An attempt was made to make the keys precise, as simple as possible. A few additional characters indicated by a double asterisk (**) have been added to certain species or species groups wherever necessary, to assure an exact identification and to avoid confusion with very similar and/or common species in the area. Unfortunately, the highly variable nature of the *scutellaris* group renders extremely difficult the identification of certain species of this group, some of which can only be identified by examination of the male terminalia. Therefore, it is always advisable that this examination be performed not only for routine confirmation of identification but also for the detection of new species in the area.

Map 1 shows the area of the South Pacific covered by the pictorial key. This area includes all of the Polynesian triangle north of the New Zealand faunal area. The 3 angles are represented by the Fiji Islands in the west, Easter Island in the east and the Hawaiian Islands in the north.

Table 1 lists all the 43 species and forms of mosquitoes known to occur

¹Excluding the New Zealand faunal area covered by Belkin (1962).

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in the area delimited and shows by an asterisk (*) the 19 known or suspected vector species included in the pictorial key. Those species having a limited distribution are also noted.

Table 2 lists the species by island or island group, indicating those that are endemic to a single area, and includes 9 new distribution records.

The non-pictorial keys to genera, subgenera, and species will obviate misidentification and will encourage interested workers to look for species not known to occur in these island groups and seek advice on the possible discovery of new species.

The keys will also assist in confirming the natural vectors of filariasis and/or dengue in the various island groups and in possibly incriminating species that are not known to be vectors at the present time.

It is important that final confirmation and/or determination of a species be made by specialists at one of the major museums such as the United States National Museum, Smithsonian Institution, Washington, D.C. 20560, or the Bernice P. Bishop Museum, P.O. Box 6037, 1355 Kalihi Street, Honolulu, Hawaii 96818. This is especially necessary for new distribution records, new vector species and possible new species.

Table 1
Mosquito Species of Polynesia¹

1. *Uranotaenia colocasiae* Edwards (Fiji Is. only)
2. *Uranotaenia painei* Edwards (Fiji Is. only)
- *3. *Culex* (*Culex*) *quinquefasciatus* Say
4. *Culex* (*Culex*) *atriceps* Edwards (Society Is. only)
5. *Culex* (*Culex*) *kesseli* Belkin (Society Is. only; rare)
6. *Culex* (*Culex*) *marquesensis* Stone and Rosen (Marquesas Is. only)
7. *Culex* (*Culex*) *roseni* Belkin (Society Is. only)
8. *Culex* (*Culex*) *sitiens* Wiedemann
- *9. *Culex* (*Culex*) *annulirostris* Skuse
10. *Culex* (*Culex*) *albinervis* Edwards (Fiji Is. only)
11. *Culex* (*Culex*) *samoensis* (Theobald) (Western Samoa only; rare)
12. *Aedeomyia* (*Aedeomyia*) *catasticta* Knab (Fiji Is. only)
13. *Mansonia* (*Coquillettidia*) *fijiensis* Belkin (Fiji Is. and rare in Western Samoa)
14. *Aedes* (*Finlaya*) *burnetti* Belkin (Fiji Is. only)
- *15. *Aedes* (*Finlaya*) *fijiensis* Marks (Fiji Is. only)
16. *Aedes* (*Finlaya*) *freycinetiae* Laird (Fiji Is. only)
- *17. *Aedes* (*Finlaya*) *oceanicus* Belkin
- *18. *Aedes* (*Finlaya*) *samoanus* (Gruenberg) (Samoa Is. only)
- *19. *Aedes* (*Finlaya*) *tutuila* Ramalingam and Belkin (see Ramalingam and Belkin, 1965) (Samoa Is. only)
20. *Aedes* (*Finlaya*) sp. Albino form (Fiji Is. only)

21. *Aedes (Levua) suvae* Stone and Bohart (Fiji Is. only)
22. *Aedes (Ochlerotatus) edgari* Stone and Rosen (Society Is. only)
- *23. *Aedes (Ochlerotatus) vigilax* (Skuse) (Fiji Is. only)
24. *Aedes (Aedimorphus) vexans* (Meigen)
- *25. *Aedes (Stegomyia) aegypti* (Linnaeus)
- *26. *Aedes (Stegomyia) albopictus* (Skuse) (Hawaiian Is. only)
- *27. *Aedes (Stegomyia) cooki* Belkin (Niue I. and Tonga Is. only)
- *28. *Aedes (Stegomyia) futunae* Belkin (Horn Is. only)
- *29. *Aedes (Stegomyia) horrescens* Edwards (Fiji Is. only)
- *30. *Aedes (Stegomyia) polynesiensis* Marks (see Huang, 1975)
- *31. *Aedes (Stegomyia) pseudoscutellaris* (Theobald) (see Huang, 1975) (Fiji Is. only)
- *32. *Aedes (Stegomyia) rotumae* Belkin (Rotuma I. only)
- *33. *Aedes (Stegomyia) tabu* Ramalingam and Belkin (see Ramalingam and Belkin, 1965) (Tonga Is. only)
- *34. *Aedes (Stegomyia) tongae* Edwards (Tonga Is. only)
- *35. *Aedes (Stegomyia) upolensis* Marks (Samoa Is. only)
- *36. *Aedes (Stegomyia) sp.* Tafahi form (Tonga Is. only)
37. *Aedes (Stegomyia) sp.* Wallis form (Wallis Is. only; rare)
38. *Tripteroides (Tripteroides) purpuratus* (Edwards) (Fiji Is. only)
39. *Tripteroides (Rachionotomyia) rotumanus* (Edwards) (Rotuma I. only)
40. *Toxorhynchites (Toxorhynchites) amboinensis* (Doleschall) (see Steffan, 1968) (introduced)
41. *Toxorhynchites (Toxorhynchites) brevipalpis* Theobald (see Steffan, 1968) (introduced)
42. *Toxorhynchites (Toxorhynchites) inornatus* (Walker) (introduced)
43. *Toxorhynchites (Toxorhynchites) splendens* (Wiedemann) (introduced)

¹Excluding the New Zealand faunal area covered by Belkin (1962).

*Included in the Pictorial Key.

Table 2
Distribution of Mosquito Species in Polynesia^{1,2}

1. Fiji Islands 23 spp.
1, 2, 3, 8, 9, 10, 12, 13, 14, 15, 16, 20, 21, 23, 24, 25, 29, 30, 31, 34,* 38, 42, 43
2. Tonga Islands 10 spp.
3, 8, 9, 17, 24, 25, 27,* 33, 34, 36
3. Samoa Islands 13 spp.
3, 8, 9, 11 (rare), 13 (rare), 17, 18, 19, 24, 25, 30, 35, 41
4. Rotuma Island 6 spp.
3,** 9, 24, 32, 39, 43** (no *Aedes aegypti*; *Culex sitiens* may be present)
5. Horn Islands 6 spp.
3,* 8,* 9,* 17,* 28, 30 (no *Aedes aegypti*)
6. Wallis Islands 8 spp.
3, 8, 9, 17,* 24, 25, 30, 37
7. Ellis Islands 6 spp.
3, 8, 9, 24, 25, 30
8. Tokelau Islands 2 spp.
24, 30
9. Phoenix Islands (unknown)
3??, 25??, 30?
10. Niue Island 4 spp.
3, 8, 25, 27
11. Northern Cook Islands 4 spp.
3, 9, 25, 27
12. Southern Cook Islands 5 spp.
3, 9, 24, 25, 30
13. Society Islands 8 spp.
3, 4, 5, 7, 9, 22, 25, 30
14. Austral Islands 4 spp.
3, 9, 25, 30

15. Tuamotu Archipelago 4 spp.
3, 9, 25, 30 (*Aedes albopictus* was introduced on one small island,
but apparently did not become established)
16. Rapa Island 2 spp.
3, 9
17. Pitcairn Island 3 spp.
3, 9, 30
18. Easter Island 1 sp.
3
19. Marquesas Islands 3 spp.
3, 6, 30
20. Line Islands (unknown)
3?, 25?, 30?
21. Hawaiian Islands 6 spp.
3, 24, 25, 26, 40, 41 (There were no mosquitoes in the Hawaiian
Islands until 1898 when a Spanish ship introduced the first species.)

¹Excluding the New Zealand faunal area covered by Belkin (1962).

²Numbers under each island or island group correspond to the numbering of the mosquito species listed in Table 1; italicized numbers (e.g. 1, 15) indicate that the species is restricted to that island or island group.

* New distribution records (J. C. Hitchcock, personal communication).

** New distribution records (I. M. Rakai, personal communication to J.C. Hitchcock in "Report on mosquito survey - Rotuma", 17-19 August 1972).

KEYS TO GENERA, SUBGENERA, AND SPECIES IN POLYNESIA¹

A. Adults

1. Apical half of proboscis bent sharply
downward and backward and conspicuously
more slender than basal half; posterior
margin of scutellum evenly rounded *Toxorhynchites*
- Apical half of proboscis not sharply
bent downward and backward; posterior
margin of scutellum distinctly trilobed 2

- 2(1). Cell R_2 always shorter than vein R_{2+3} ;
wing membrane without distinct microtrichia *Uranotaenia*
- Cell R_2 always at least as long as vein R_{2+3} ;
wing membrane with distinct microtrichia 3
- 3(2). Spiracular setae present 4
- Spiracular setae absent 5
- 4(3). Vertex of head with azure
blue scales *Tripteroidea* (*Tripteroidea*)
purpuratus (Edwards)
- Vertex of head without
azure blue scales *Tripteroidea* (*Rachionotomyia*)
rotumarius (Edwards)
- 5(3). Flagellomeres 12 and 13 relatively
short and thick *Aedeomyia* (*Aedeomyia*)
catanticta Knab
- Flagellomeres 12 and 13 normal,
neither short nor thick 6
- 6(5). Postspiracular setae usually absent 7
- Postspiracular setae usually present 8
- 7(6). Claws of hindleg very small and inconspicuous;
pulvilli present on all legs *Culex*
- Claws of hindleg quite large and
conspicuous; pulvilli absent *Mansonia* (*Coquillettidia*)
fijiensis Belkin
- 8(6). Wing scales broad; wings spotted; scutellum
with broad scales on all lobes *Aedes* (*Finlaya*) *kochi* group
- Wing scales narrow 9
- 9(8). Head with decumbent scales largely broad, erect
forked scales not numerous, restricted to occiput. *Aedes* (*Stegomyia*)
- Head with decumbent scales largely narrow, erect
forked scales numerous, not restricted to occiput 10
- 10(9). Pleural scaling restricted to posterior
pronotum and sternopleuron *Aedes* (*Levua*) *suva*
Stone and Bohart

- Pleural scaling not restricted to posterior
pronotum and sternopleuron 11
- 11(10). Lower prealar scale patch present *Aedes (Ochlerotatus)*
- Lower prealar scale patch absent *Aedes (Aedimorphus)*
vexans (Meigen)

¹Excluding the New Zealand faunal area covered by Belkin (1962).

Aedes (Finlaya) kochi group

1. Tibiae with contrasting dark and light scales 2
- Tibiae with all whitish scales Fiji albino form
- 2(1). Halter largely dark scaled *fijiensis* Marks
- Halter largely pale, yellow scaled 3
- 3(2). Hind tarsomere 4 with all dark scales *burnetti* Belkin
- Hind tarsomere 4 with at least some yellow
scales ventrally or white scales apically . . . *freycinetiae* Laird

Aedes (Ochlerotatus)

- Anterior pronotum, propleuron and
paratergite with scales *vigilax* (Skuse)
- Anterior pronotum, propleuron and
paratergite without scales *edgari* Stone and Rosen

Culex (Culex)

1. Lower mesepimeral setae present; proboscis
without a distinct complete median light ring;
tarsi without distinct light rings 2
- Lower mesepimeral setae absent; proboscis with
a distinct complete median light ring; tarsi with
distinct basal or basal and apical light rings 5

- 2(1). Abdominal tergites with transverse basal pale bands
connecting basolateral pale spots on some segments 3
- Abdominal tergites with basolateral pale spots not
connected by transverse basal pale bands on any
segment 4
- 3(2). Female: ventral surface of proboscis extensively
pale scaled; male: palpus with white scales on
ventral surface of segments 4 and 5 *quinquefasciatus* Say
- Female: ventral surface of proboscis uniformly
dark; male: palpus without white scales on
ventral surface of segments 4 and 5 . . . *marquesensis* Stone and Rosen
- 4(2). Dorsal surface of hindfemur with basal 0.4 or
more white *kesseli* Belkin
- Dorsal surface of hindfemur with basal 0.1 or
less white *atriceps* Edwards
- 5(1). Abdominal tergites without any indication of
transverse pale bands *samoensis* (Theobald)
- Abdominal tergites with complete transverse
pale bands on some segments 6
- 6(5). A more or less conspicuous patch of broad erect
scales in front of supraalar bristles *albinervis* Edwards
- No broad erect scales in front of supraalar bristles. 7
- 7(6). Foretibia usually with a line of small pale spots on
anterior surface along dorsal row of bristles . . *annulirostris* Skuse
- Foretibia usually without any pale spots on anterior
surface along dorsal row of bristles 8
- 8(7). Midfemur usually with some pale speckling on
anterior surface *sitiens* Wiedemann
- Midfemur usually without pale speckling on
anterior surface *roseni* Belkin

Uranotaenia

Propleuron with scales; vein R_2 at most 0.6
length of vein M_{1+2} *colocasiae* Edwards

Propleuron without scales; vein R_2 at
least 0.80 length of vein M_{1+2} *painei* Edwards

Toxorhynchites (*Toxorhynchites*)

Females

1. Fore tarsomere 1 largely dark scaled;
upper posterior pronotum largely with
bluish and purplish scales *brevipalpis* Theobald

Fore tarsomere 1 largely light scaled 2
- 2(1). Upper posterior pronotum largely with
bluish green scales *inornatus* (Walker)

Upper posterior pronotum largely with white scales 3
- 3(2). Lateral scale tuft of abdominal segment
VI largely yellow *splendens* (Wiedemann)

Lateral scale tuft of abdominal segment
VI largely pale *amboinensis* (Doleschall)

Males

1. Lateral scale tuft of abdominal segment
VIII black; upper posterior pronotum
largely with white scales *amboinensis* (Doleschall)

Lateral scale tuft of abdominal segment
VIII orange yellow 2
- 2(1). Flagellomere 1 with dark scales on mesal
surface; upper posterior pronotum largely
with bluish and purplish scales *brevipalpis* Theobald

Flagellomere 1 with light scales on mesal surface 3
- 3(2). Abdominal tergum I with dark scales medially
and yellowish scales laterally *splendens* (Wiedemann)

Abdominal tergum I with greenish scales
medially and white scales laterally *inornatus* (Walker)

B. Larvae

1. Median dorsal valve of siphon long,
fixed, and with serrated dorsal
margin *Mansonia (Coquillettidia)*
fijiensis Belkin

Median dorsal valve of siphon short,
movable, and without serrated dorsal
margin 2
- 2(1). Siphon with more than one pair of
subventral (1-S) tufts 3

Siphon with a single pair of subventral
(1-S) tufts 5
- 3(2). Siphon with acus *Culex*

Siphon without acus 4
- 4(3). Comb scales arising from a
sclerotized plate *Tripteroides (Tripteroides)*
purpuratus (Edwards)

Comb scales free, not arising from
a sclerotized plate *Tripteroides (Rachionotomyia)*
rotumanus (Edwards)
- 5(2). Abdominal setae in groups of 3-5
on large common sclerotized plates *Toxorhynchites*

Abdominal setae arising separately and
without strong sclerotized plates 6
- 6(5). Antenna greatly swollen from base
to setae 2-4 A *Aedeomyia (Aedeomyia)*
catasticta Knab

Antenna at most slightly swollen
proximad of seta 1-A 7
- 7(6). Maxillary suture of head capsule at most
barely indicated on anterior margin, never
reaching posterior tentorial pit *Uranotaenia*

Maxillary suture of head capsule always
complete and reaching posterior tentorial pit 8

- 8(7). Abdominal segment I with seta 12 present 9
- Abdominal segment I with seta 12 absent 11
- 9(8). Ventral brush with 5 pairs of setae,
each seta with long basal stalk, all
arising from basal boss, without
distinct bars, and no precratal
tufts *Aedes (Finlaya) kochi* group
- Ventral brush with 5-7 pairs of setae
on grid, and with 2-4 precratal tufts 10
- 10(9). Saddle large, extending on lateral surface;
seta 1-X on or adjacent to saddle *Aedes (Ochlerotatus)*
- Saddle small, restricted to dorsal surface;
seta 1-X distinctly removed from saddle *Aedes (Levua) suvae*
Stone and Bohart
- 11(8). Ventral brush with 6-7 pairs of setae
on grid, and with 2-4 precratal tufts *Aedes (Aedimorphus)*
vexans (Meigen)
- Ventral brush with 4 or 5 pairs of
setae, and no precratal tufts *Aedes (Stegomyia)*
- Aedes (Finlaya) kochi* group
1. Comb scales in middle of posterior
row without fringe *burnetti* Belkin
- Comb scales in middle of posterior
row with fringe 2
- 2(1). Comb scale with 1, 2 pairs of sharp denticles
on basal part, distal part flattened, slightly
expanded, rounded apically and fringed *fijiensis* Marks
- Comb scale without basal denticles, with a
slender long stem and a broad spatulate
apex, and fringed *freycinetiae* Laird

The larva of Albino form is unknown.

Aedes (Ochlerotatus)

Siphon index more than 2.0; seta 5-C
usually with 3-5 branches *edgari* Stone and Rosen

Siphon index less than 2.0; seta 5-C
usually with 1-2 branches *vigilax* (Skuse)

Culex (Culex)

1. Antenna less than 0.35 head length; setae
4, 6-C placed far forward on head capsule 2

Antenna more than 0.40 head length; setae
4, 6-C placed farther back on head capsule 4
- 2(1). Seta 1-C thick, spiniform *marquesensis* Stone and Rosen
Seta 1-C very thin 3
- 3(2). Pecten tooth usually with 1-2 strong
basal denticles *atriceps* Edwards
Pecten tooth usually simple *kesseli* Belkin
- 4(1). Seta 1-C markedly flattened, its apex
rounded or irregular 5

Seta 1-C very slender or moderately thickened,
its apex acuminate or filamentous 6
- 5(4). Saddle complete *sitiens* Wiedemann
Saddle incomplete *roseni* Belkin
- 6(4). Seta 1-III-VI poorly developed, usually
shorter than seta 3-III-VI *albinervis* Edwards

Seta 1-III-VI well developed, usually
longer than seta 3-III-VI 7
- 7(6). Seta 1-C very slender, filamentous distally,
usually very lightly pigmented *quinquefasciatus* Say

Seta 1-C thickened, not filamentous distally,
usually very strongly pigmented *annulirostris* Skuse

The larva of *samoensis* (Theobald) is unknown.

Uranotaenia

Seta 9-M, T single *colocasiae* Edwards

Seta 9-M, T multiple *painei* Edwards

Toxorhynchites (Toxorhynchites)

1. Seta 2-II-VI usually attached
to large dorsal plate *inornatus* Walker

Seta 2-II-VI free from large dorsal plate 2

2(1). Seta 11-IV, V usually with 3-4 branches . . . *splendens* (Wiedemann)

Seta 11-IV, V usually single or double 3

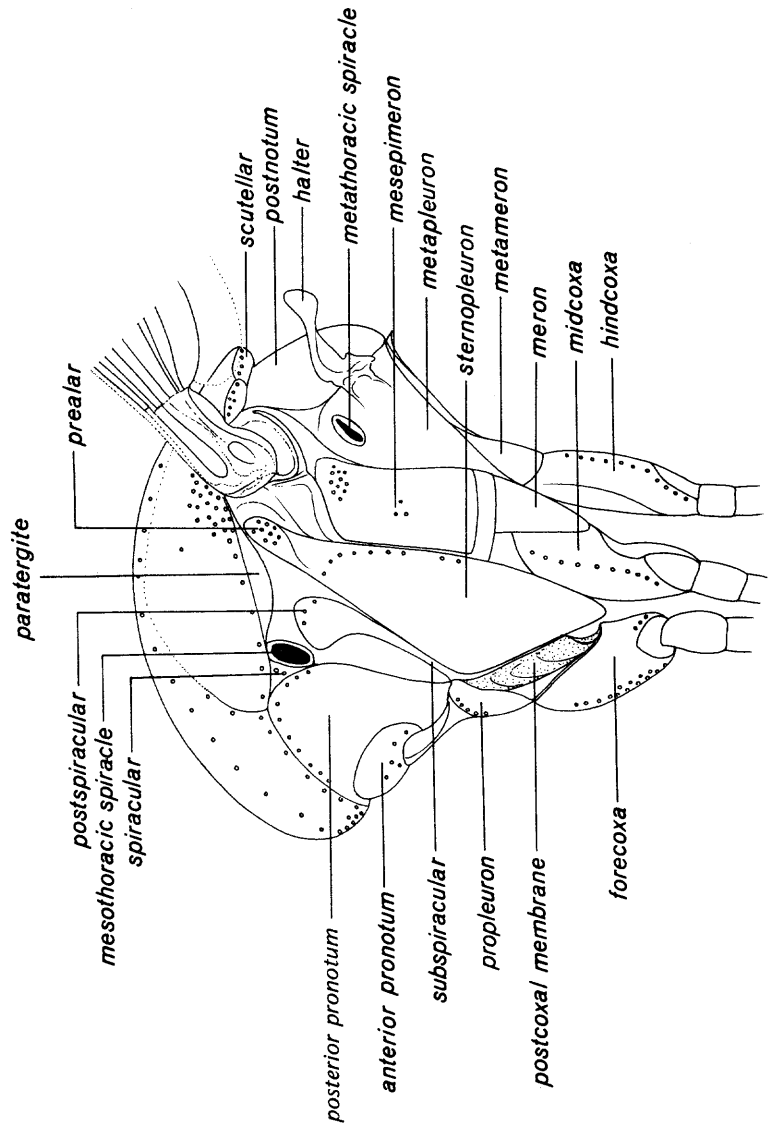
3(2). Seta 9-C with 2-4 branches; 12-C
with 3-5 branches *brevipalpis* Theobald

Seta 9-C with 5 or more branches;
12-C with 6 or more branches *amboinensis* (Doleschall)

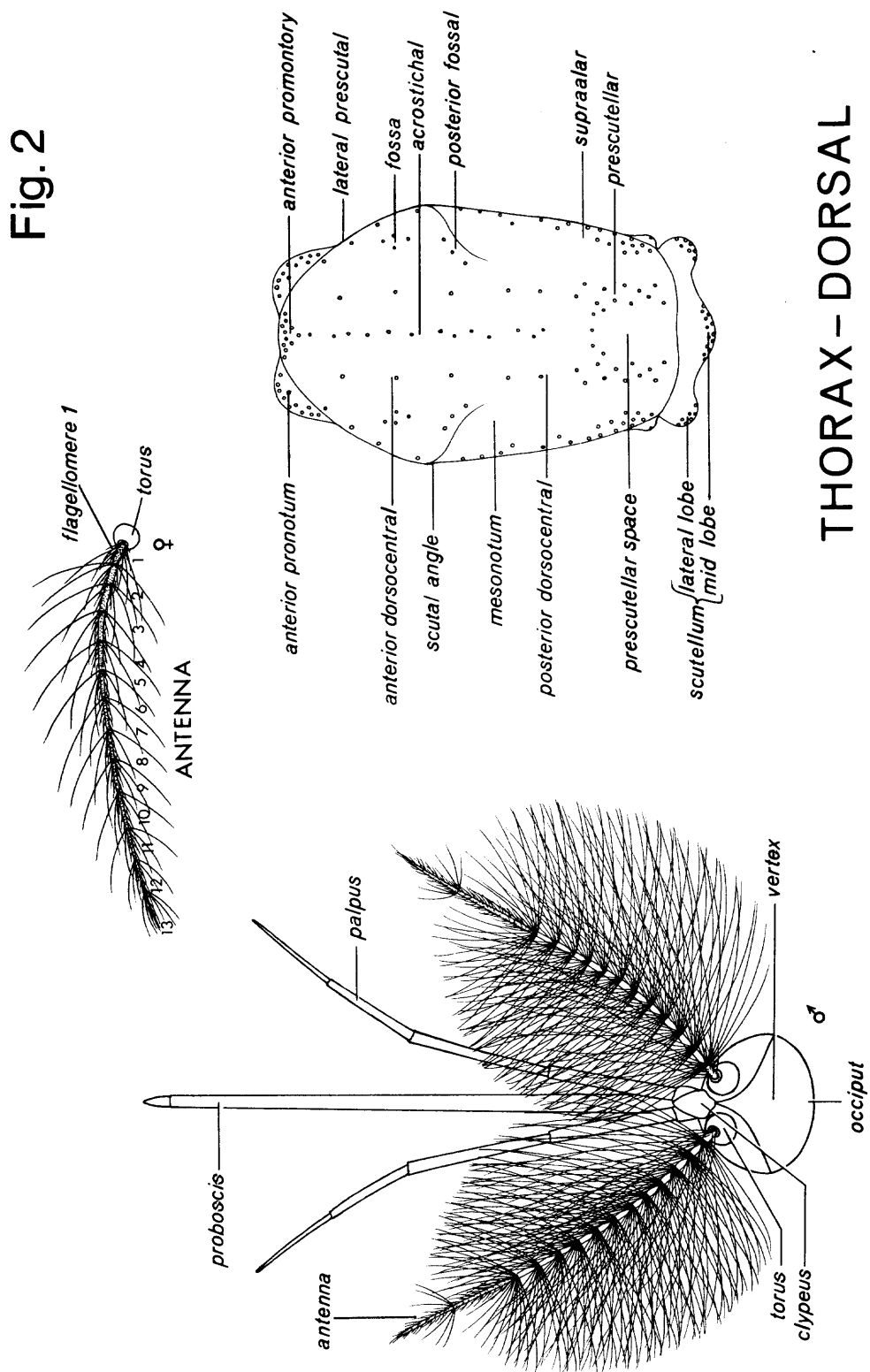
MORPHOLOGICAL FEATURES USED IN IDENTIFICATION

Fig.1

A. ADULT



THORAX - LATERAL



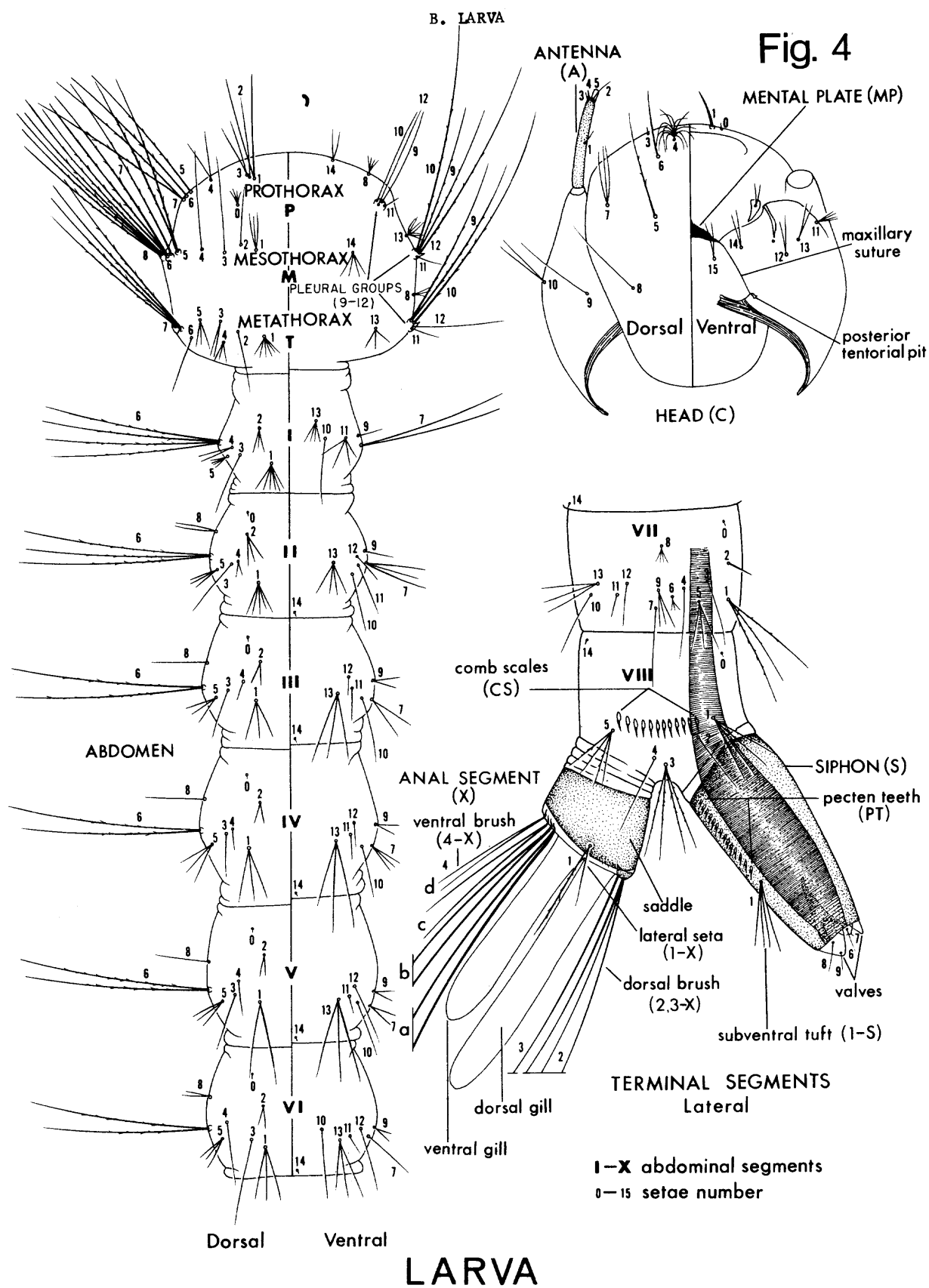
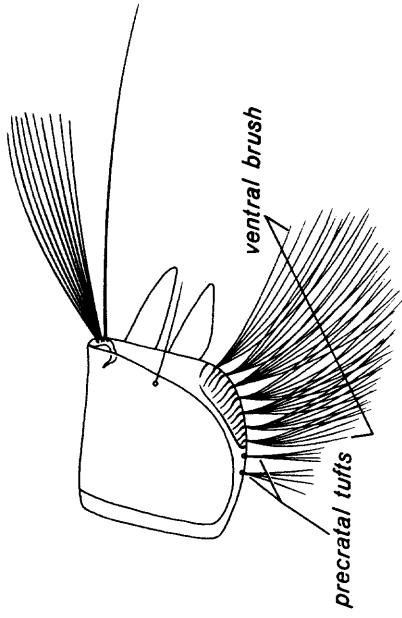
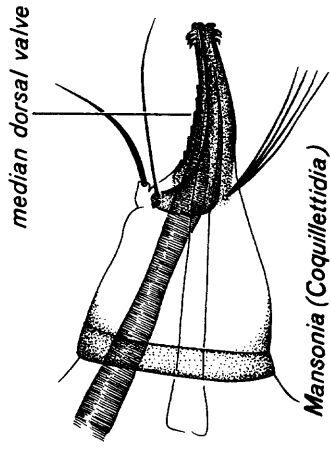


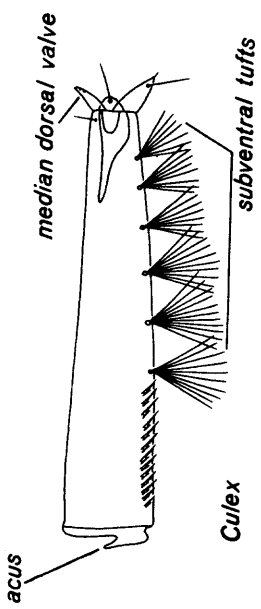
Fig. 5



ANAL SEGMENT (X)



SIPHON



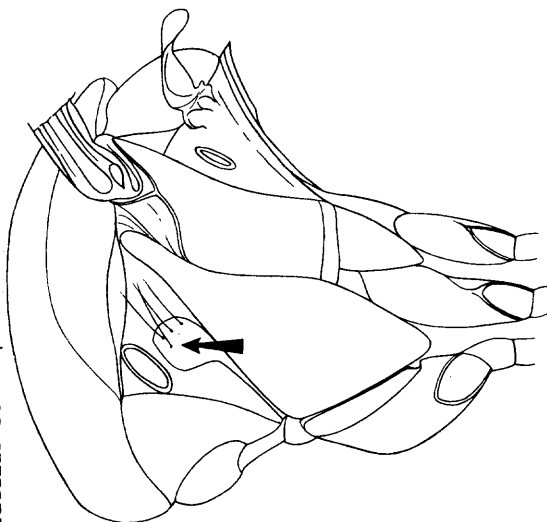
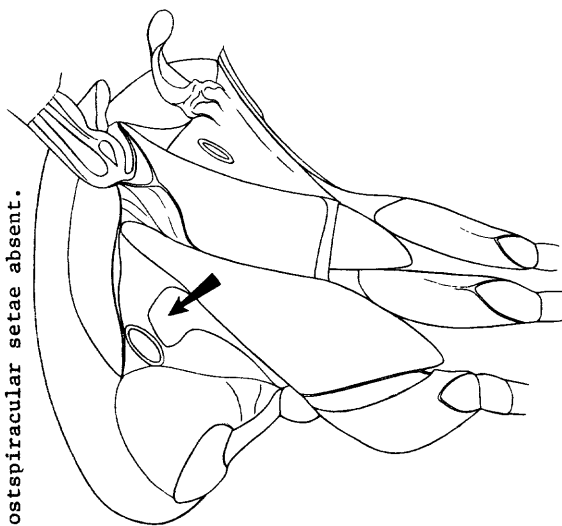
SIPHON

PICTORIAL KEY

A. ADULTS

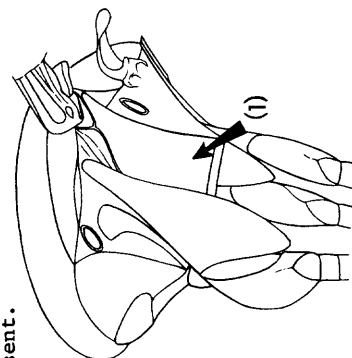
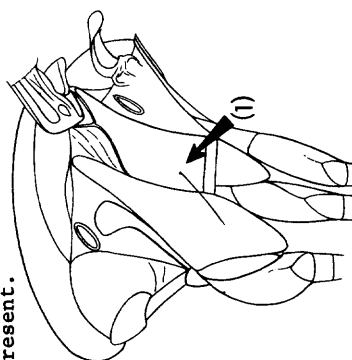
Postspiracular setae absent.

Postspiracular setae present.



(1) Lower mesepimeral setae present.

(1) Lower mesepimeral setae absent.



**

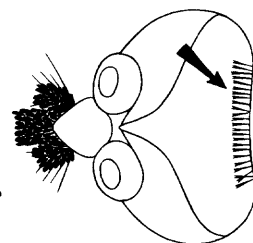
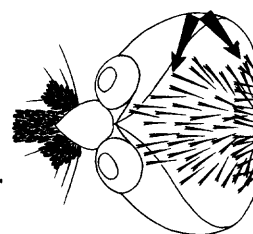
(2) Foretibia usually with a line of small pale spots on anterior surface along dorsal row of bristles.

Culex quinquefasciatus Say



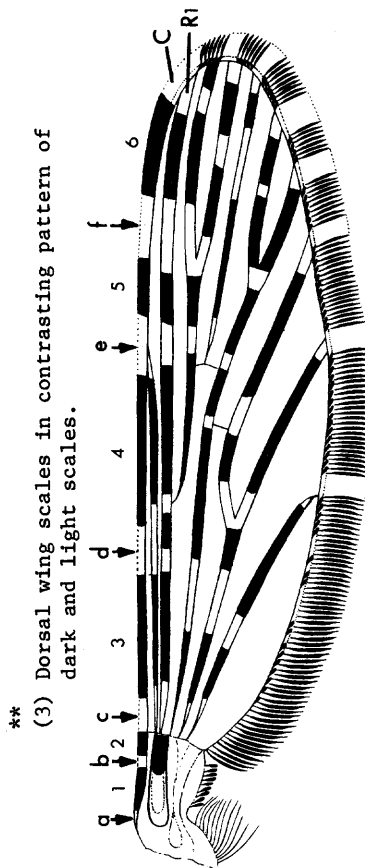
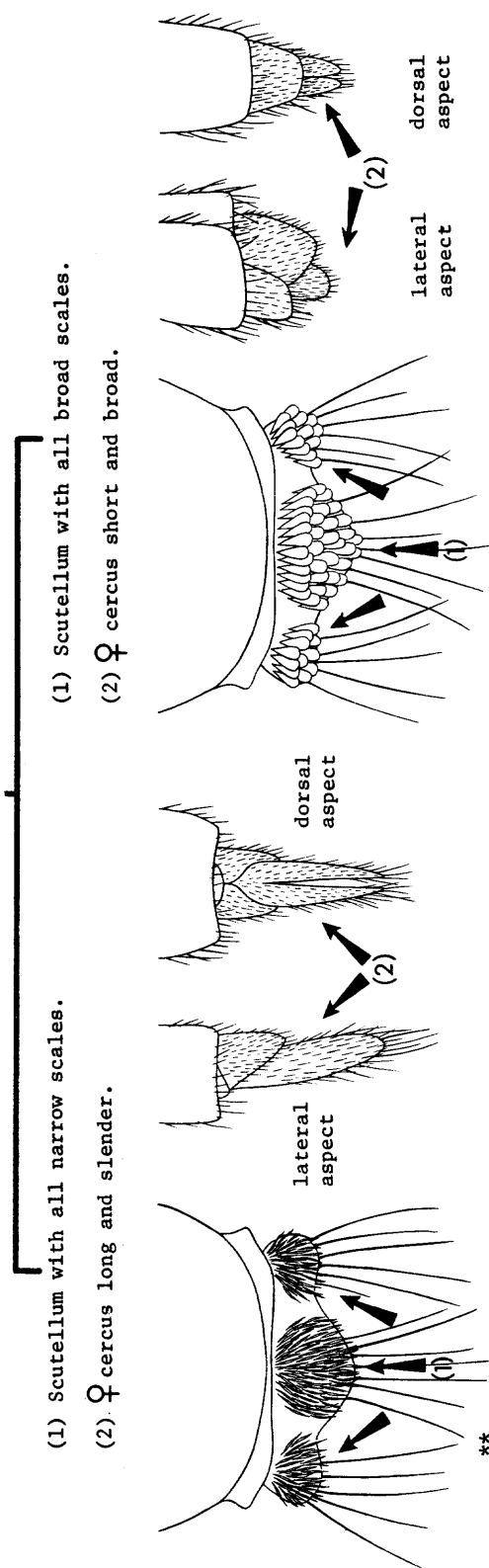
Culex annulirostris Skuse

Erect forked scales numerous, not restricted to occiput.



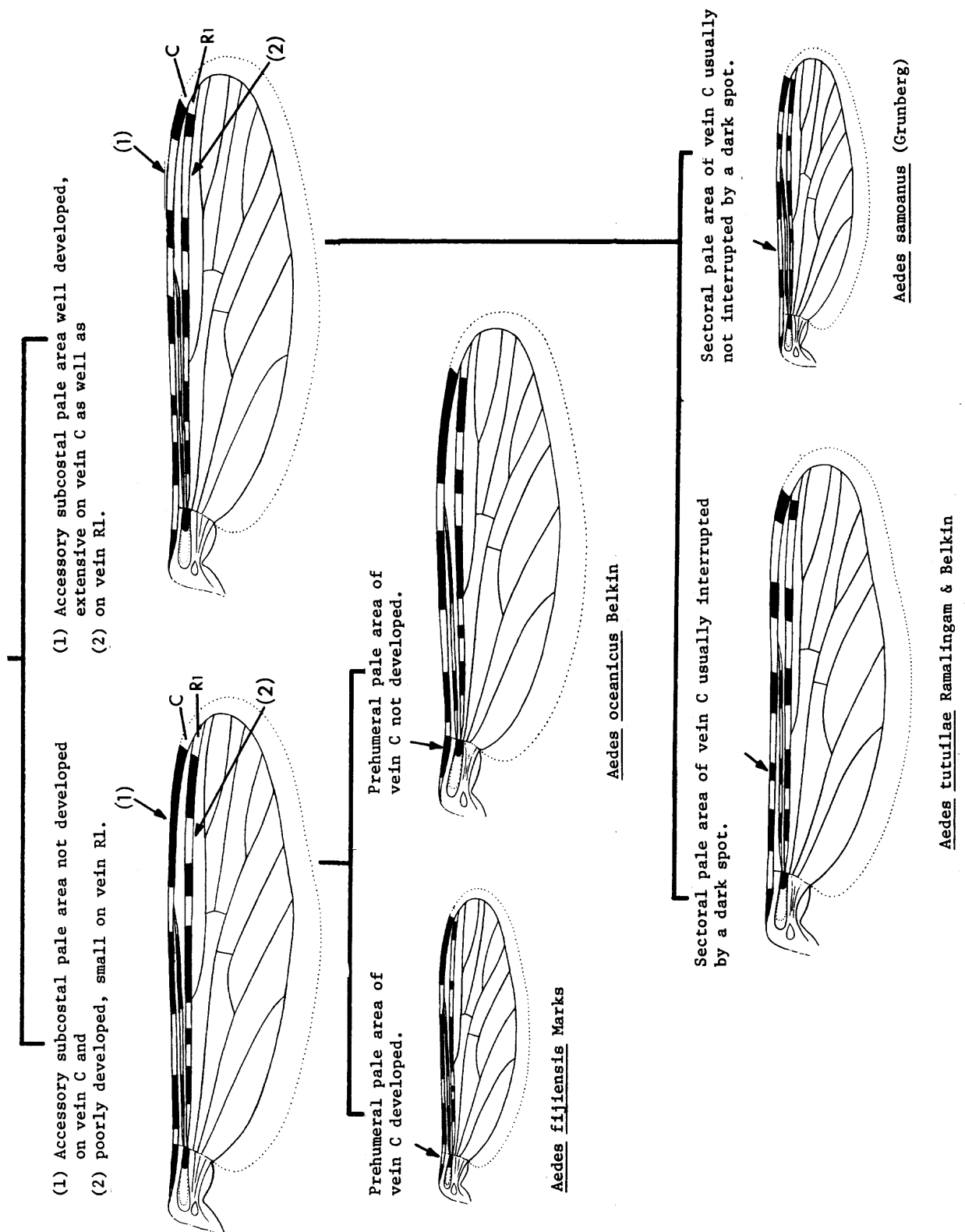
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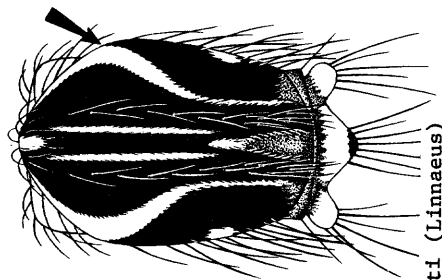


- Pale areas
- a - Basal
 - b - Prehumeral
 - c - Humeral
 - d - Sectoral
 - e - Subcostal
 - f - Accessory subcostal
- Dark spots
- 1. basal
 - 2. prehumeral
 - 3. subbasal
 - 4. median
 - 5. preapical
 - 6. apical

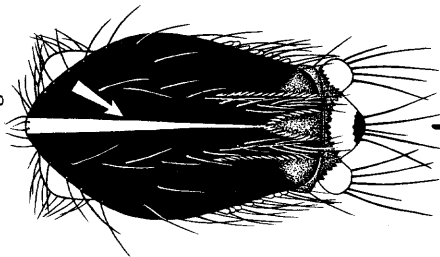
Aedes vigilax (Skuse)



Scutum with lyre-shaped white markings.



Scutum with a long median longitudinal white stripe extending from anterior margin to about level of wing root.

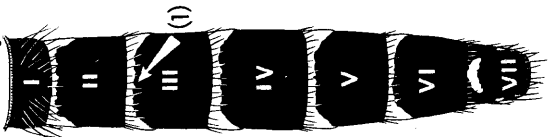


Aedes aegypti (Linnaeus)

- (1) Abdominal tergites with complete basal transverse white bands and
- (2) with separate basolateral white spots.



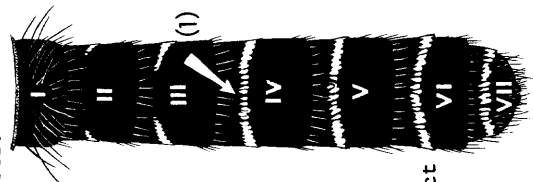
lateral aspect



dorsal aspect



lateral aspect

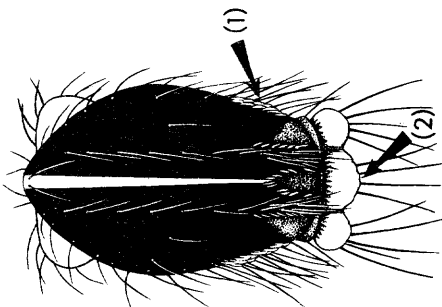


dorsal aspect

Aedes albopictus (Skuse)

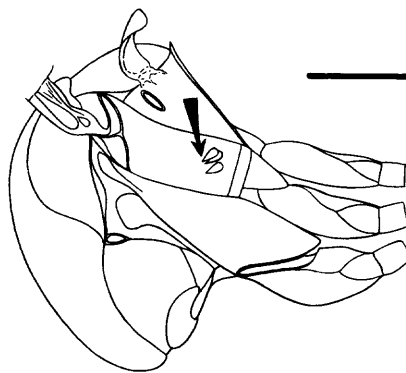
Page 311

- (1) Supraalar white line more or less complete, with only narrow scales over wing root;
 (2) midlobe of scutellum with all broad white scales and without dark scales apically.



Aedes futunae Belkin

- Lower mesepimeral white scale patch absent or very small, with no more than 3 scales.

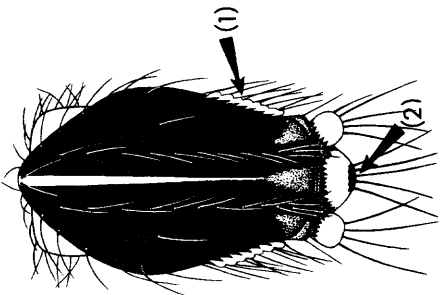


- Hind tarsomere 4 with basal 0.75 or more white.



Aedes futunae Belkin

- (1) Supraalar white line complete, with broad flat scales over wing root;
 (2) midlobe of scutellum with broad white scales and with dark scales apically.



- Lower mesepimeral white scale patch well developed, with at least more than 3 scales.



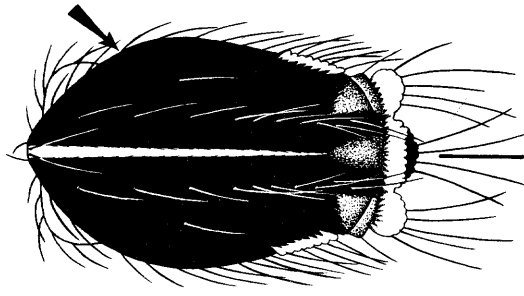
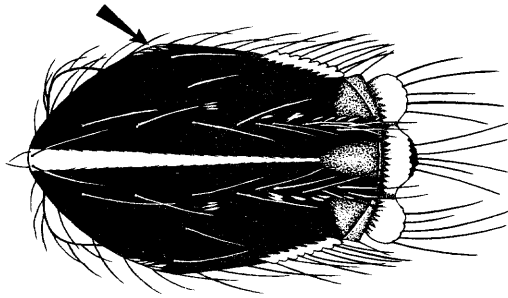
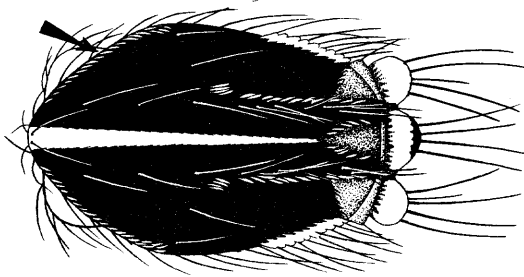
- Hind tarsomere 4 with basal 0.60-0.70 white.



Aedes upolensis Marks

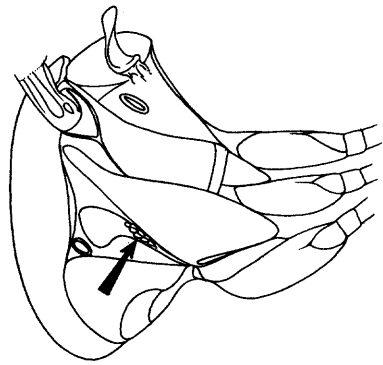
Lateral prescutal white line present, or at least with some narrow white scales on scutal angle area.

Lateral prescutal white line not present.

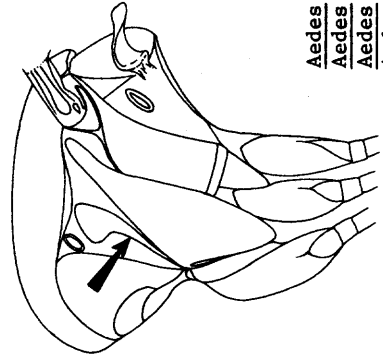


Aedes pseudoscutellaris (Theobald)

Subspiracular area with scales.



Subspiracular area without scales.

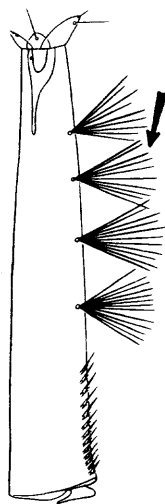


Aedes horrescens Edwards

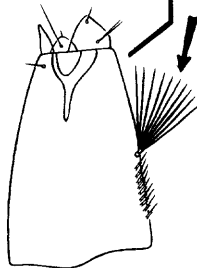
Aedes polynesiensis Marks
Aedes tongae Edwards
Aedes tabu Ramalingam & Belkin
Aedes cooki Belkin
Aedes sp. Tafahi form

B. LARVAE

Siphon with more than 3 pairs of subventral tufts.

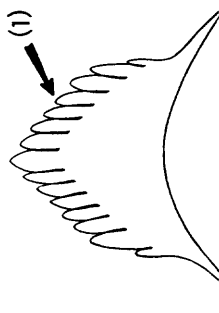


Siphon with a single pair of subventral tufts.

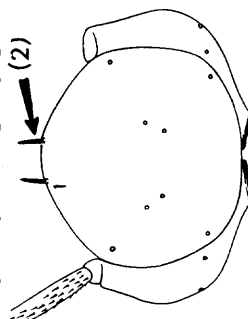


→ Page 314

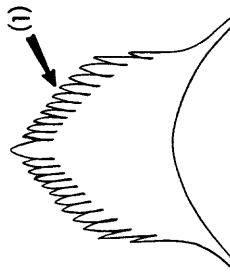
(1) Mental plate usually with 6-9 teeth on each side of median tooth.



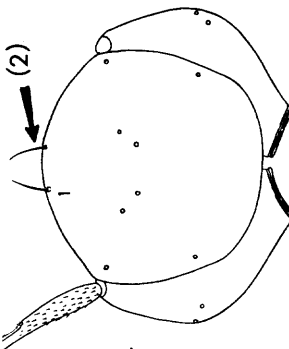
(2) Seta 1-C thickened, not filamentous distally, usually very strongly pigmented.



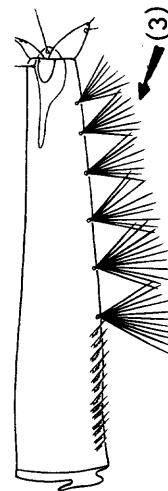
(1) Mental plate with at least 10 teeth on each side of median tooth.



(2) Seta 1-C very slender, filamentous distally, usually very lightly pigmented.

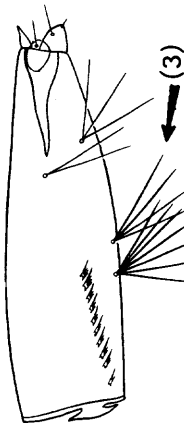


(3) Siphon with 5-7 pairs of subventral tufts.



Culex annulirostris Skuse

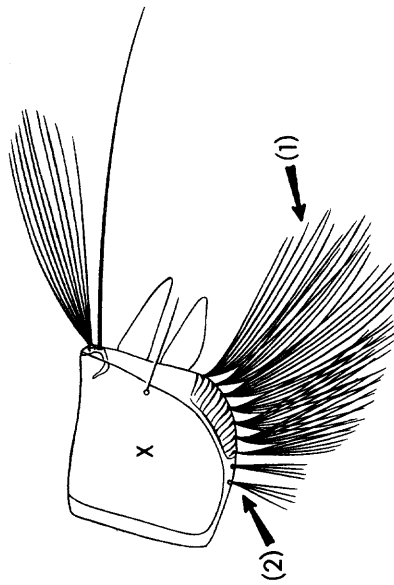
(3) Siphon with 4 pairs of subventral tufts.



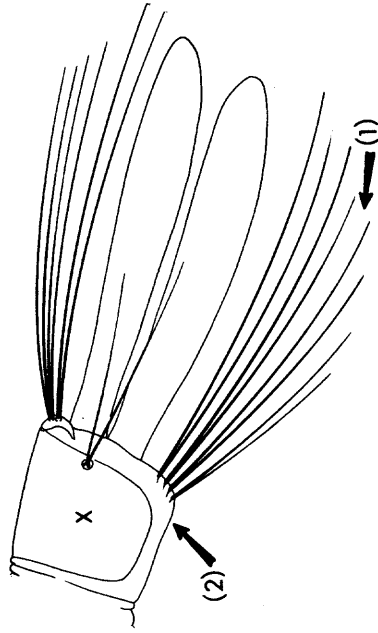
Culex quinquefasciatus Say



- (1) Ventral brush with 6-7 pairs of setae and
(2) with 2-4 precratal tufts.

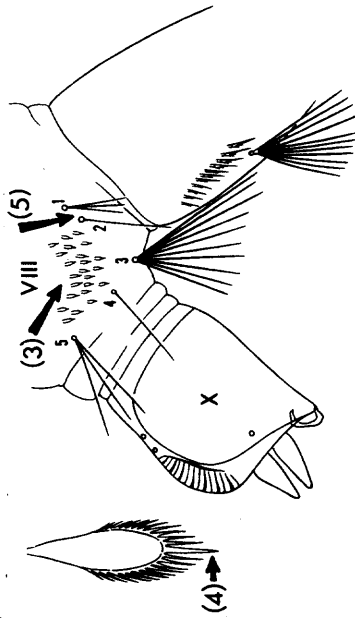


- (1) Ventral brush with 4 or 5 pairs of setae and
(2) no precratal tufts.



**

- (3) Comb in an irregular 2-3 rows,
(4) comb scale small, strongly fringed and
usually with a differentiated apical spicule.
(5) Setae 1-VIII and 2-VIII not on common basal plate.

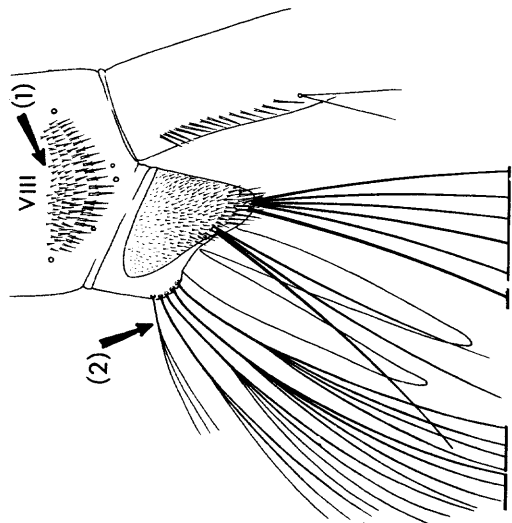


Aedes vigilax (Skuse)

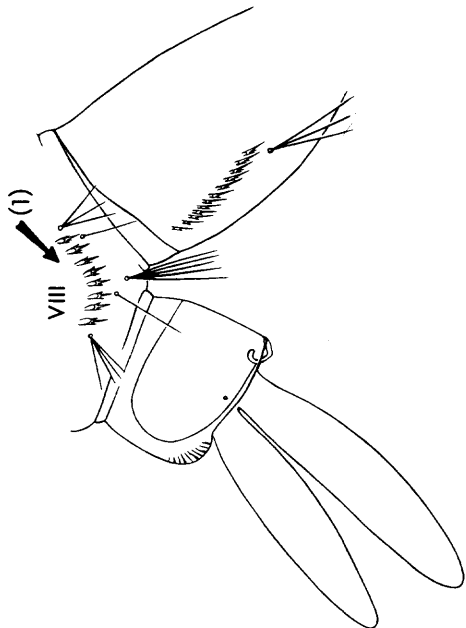


(1) Comb in a patch of several rows of scales, those of distal row elongate and varied in development.

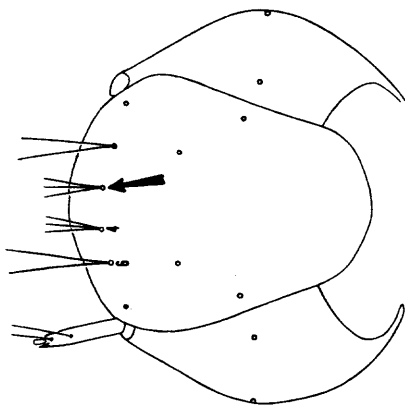
(1) Comb in a single row.



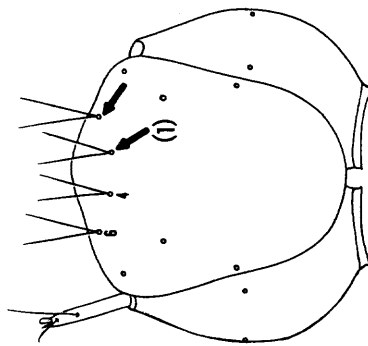
**(2) Ventral brush with 5 pairs of setae, each seta with long basal stalk, all arising from basal boss, without distinct bars.



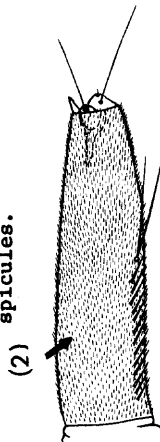
Seta 4-C usually with 2-5 branches, without enlarged base.



(1) Seta 4-C distinctly caudad of 6-C.

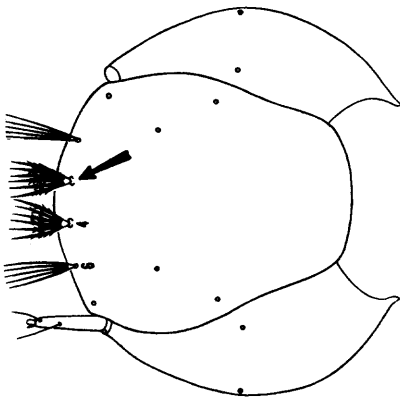


(2) Siphon with uniform, dense, short spicules.

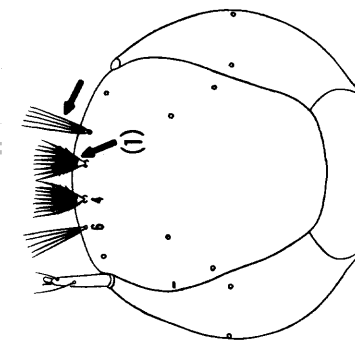


Aedes fijiensis Marks

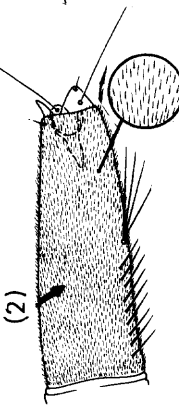
Seta 4-C usually at least with 6 branches, and always with enlarged base.



(1) seta 4-C usually no more than 12 branches; 6-C usually with 3-7 branches.

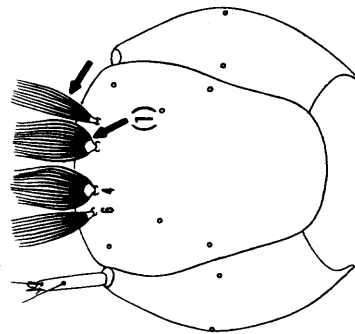


(2) Siphon with uniform, short spicules.

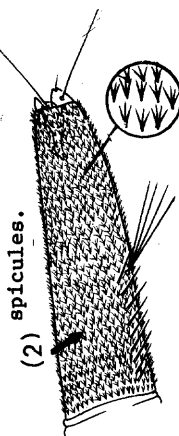


Aedes tutuillae Ramalingam & Belkin

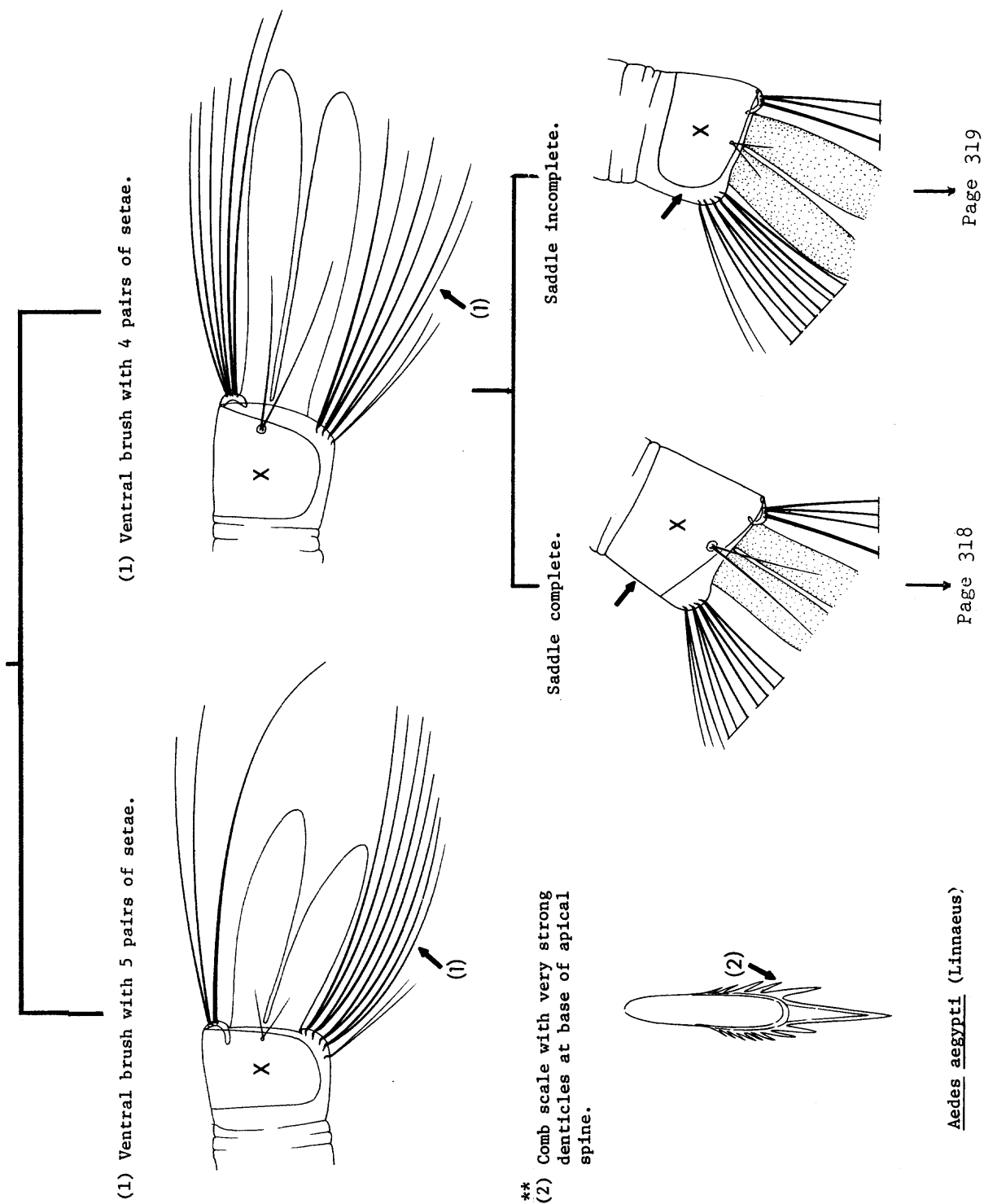
(1) Seta 4-C at least 13 branches; 6-C usually with 8-12 branches.

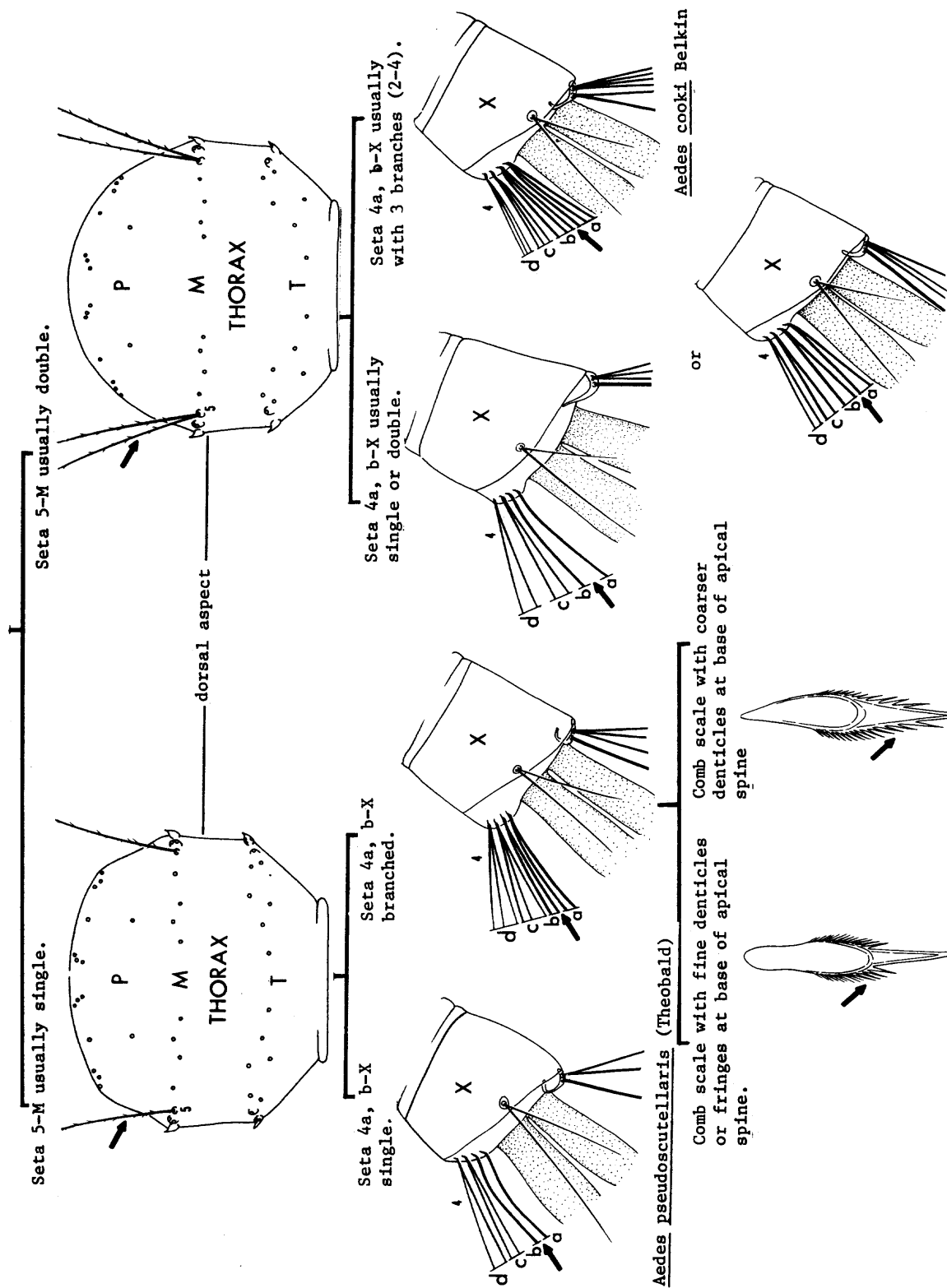


(2) Siphon with longer, denser and branched spicules.



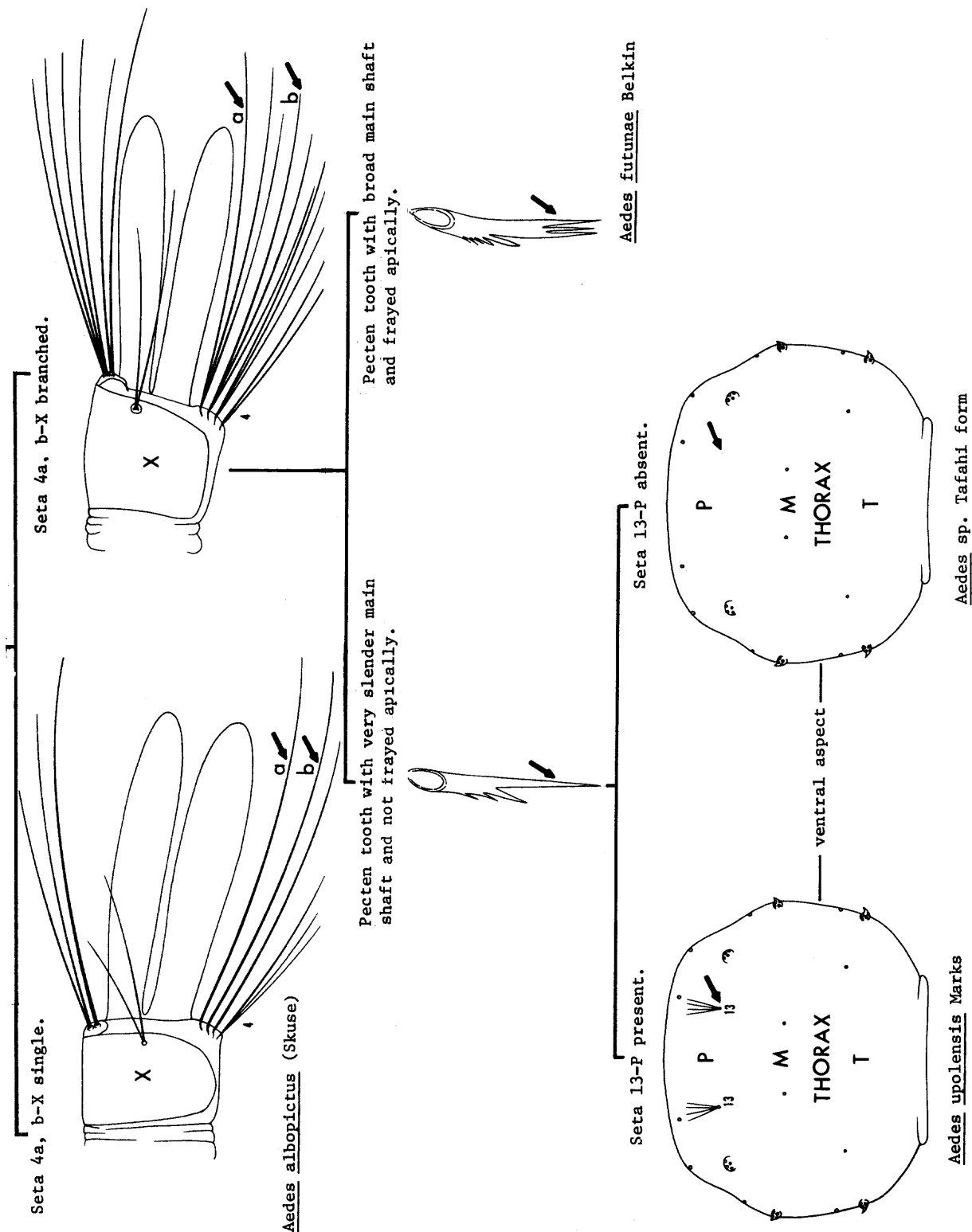
Aedes samoanus (Grunberg)





Aedes tabu Ramalingam & Belkin
Aedes tongae Edwards

Aedes polynesiensis Marks



Pecten tooth with very strong basal anterior denticles.



Aedes horrescens Edwards

Pecten tooth with rather small basal anterior denticles.



Aedes rotumae Belkin

Footnote : Adults

Page 307 Culex sitiens Wiedemann, a widely distributed non-vector, is easily confused with Culex annulirostris, but does not have pale spots on the anterior surface of the foretibia (2).

Page 308 Aedes vexans (Meigen) [= Aedes nocturnus (Theobald)], a widely distributed non-vector, is easily confused with Aedes vigilax, but does not have a scale patch at (3) and does have a scale patch at (4). Aedes vigilax is only known from Fiji in Polynesia but is the major vector of subperiodic filariasis in New Caledonia and the Loyalty Islands.

Page 311 Aedes sp. Tahahi form which could easily be confused with Aedes upolensis especially when the lower mesepimeral white scale patch is absent, has the dorsal surface of hindfemur with basal 0.25 or more white while in Aedes upolensis the dorsal surface of the hindfemur has basal 0.12 or less white. Aedes sp. Tahahi form is only known from Tonga.

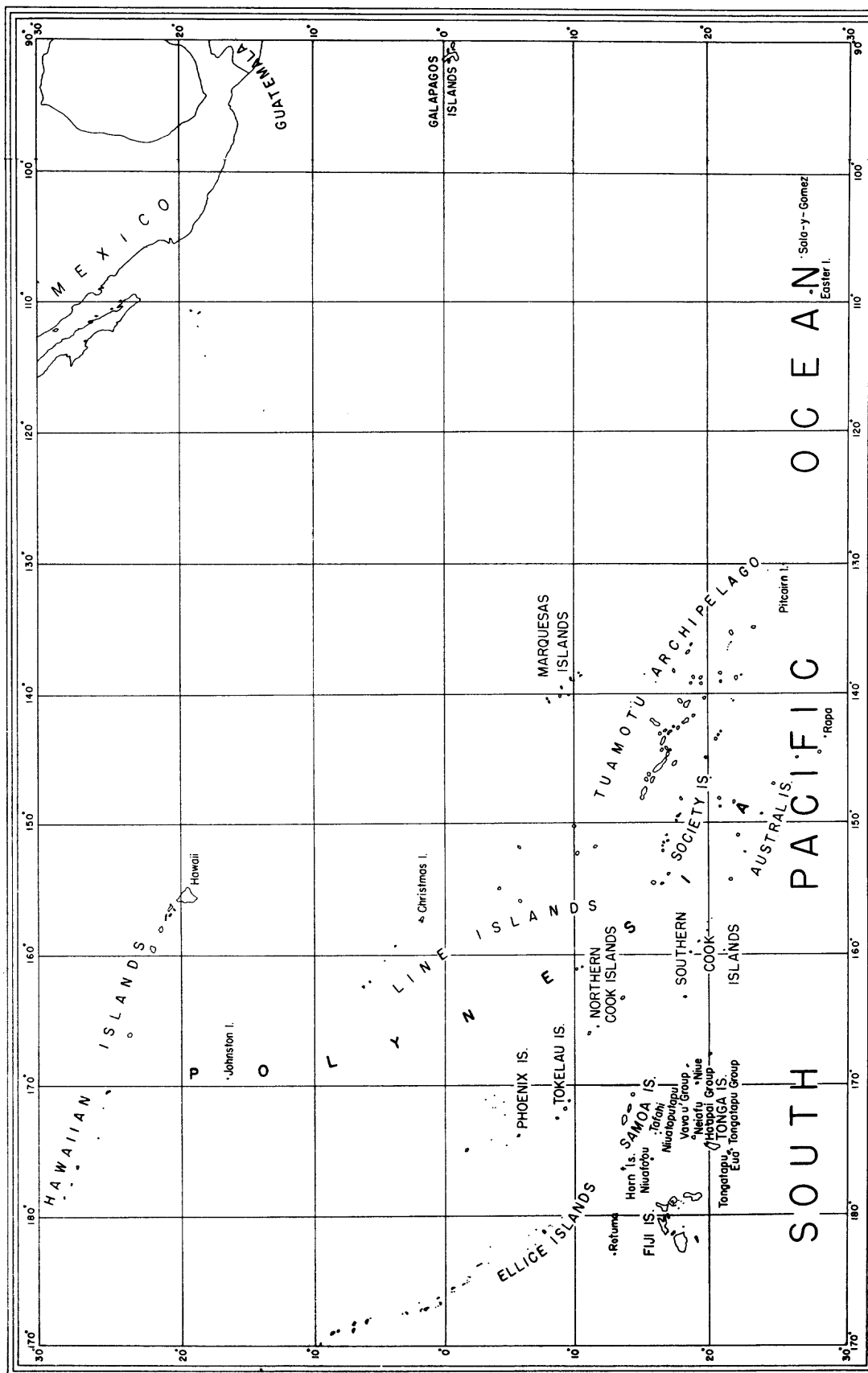
Larvae

Page 313 Culex sitiens Wiedemann has seta 1-C thickened but it is irregularly dorsoventrally flattened and usually blunt while in Culex annulirostris it is thickly tapering and pointed. The 2 species are often found associated in the same breeding site.

Page 314 Aedes vexans (Meigen) [= Aedes nocturnus (Theobald)] which could easily be confused with Aedes vigilax, has a single row of comb scales (3), a lightly fringed comb scale with a long apical spine (4), and setae 1-VIII and 2-VIII are on a common basal plate (5).

Page 318 Aedes sp. Wallis form which could easily be confused with Aedes polynesiensis, has the saddle incomplete. Aedes sp. Wallis form is only known from the Wallis Islands.

MAP I. AREA OF THE SOUTH PACIFIC COVERED BY THE PICTORIAL KEY



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